EASTERN RESEARCH GROUP, INC.

MEMORANDUM

TO: Bill Maxwell, U.S. Environmental Protection Agency (EPA), Office of Air Quality Planning Standards (OAQPS) (MD-13)

FROM: Heather Wright, Eastern Research Group (ERG), Morrisville

DATE: February 20, 1998

SUBJECT: Final Summary of the February 10 and 11, 1998 Meeting of the Industrial Combustion Coordinated Rulemaking (ICCR) Process Heater Work Group

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1.0 INTRODUCTION

- The purpose of the meeting was to allow attendees to discuss various activities of the ICCR Process Heater Work Group (PHWG). The flash minutes for the meeting are included as attachment 1.
  - The meeting was held on February 10 and 11 in Los Angeles, CA.
  - A complete list of meeting attendees with their affiliations is included as attachment 2.
  - The Work Group agreed that they would begin the meeting with status reports from the Subgroups that recently met on January 28, 29, and 30. A presentation to the Coordinating Committee (CC) would be developed following the updates.

2.0 SUMMARY OF DISCUSSION AND DECISIONS

Work Group discussions are summarized in the following sections:

2.1 Good Combustion Practices Subgroup Status Report
2.2 MACT Floor Documentation Subgroup Status Report
2.3 Numeric Emission Limits Subgroup Status Report
2.4 Direct-Fired Process Heaters Discussion
2.5 Upcoming Presentation to the Coordinating Committee
2.6 Additional Information Presented to the Work Group

2.1 Good Combustion Practices Subgroup Status Report

Chuck Ferrick presented a status report and the Subgroup's revised good combustion practices (GCP) tables for indirect, gas- and liquid-fired process heaters (see handout presented as attachment 3).

- Mr. Ferrick explained that comments from the previous Work Group meeting were incorporated within the tables and the column headings were modified. Methods for verification or demonstration of compliance with the standards have not been developed, but are in progress. Details concerning training program requirements must be developed as well.

- A question was raised as to when startup, shutdown, and malfunction requirements will be addressed by the Work Group, as well as development of provisions for periods of online maintenance or tune-ups. One Work Group member suggested that these issues are to be addressed by the affected facilities individually. An EPA representative explained that 40 CFR part 63 subpart A General Provisions requires facilities to develop plans to address some process excursions, but the Work Group might want to consider recommending additional provisions to be included in the regulations beyond what part 63 requires.

- There was agreement in the Work Group that 40 CFR part 63 subpart A General Provisions will cover startup, shutdown, and malfunctions, but not online maintenance and tune-ups. Online maintenance and tune-up requirements will have to be addressed by the PHWG. Mr. Ferrick will update the GCP tables to reflect these issues.

    - The Work Group agreed to defer discussion of online maintenance until later in the regulatory development process. The Work Group agreed that the GCP Subgroup will investigate how to address periods of online maintenance and other outstanding issues related to GCP.

- Janet Peargin presented a draft document of good combustion techniques that are being considered by the ICCR Pollution Prevention Subgroup for reference and to compare with those under discussion by the PHWG (see handout presented as attachment 4).

2.2 MACT Floor Documentation Subgroup Status Report

Lee Gilmer presented a summary of the maximum achievable control technology (MACT) floor analysis developed by the Subgroup (see handouts presented as attachment 5).

- The Subgroup used available data to determine that less than 1 percent of indirect, gas- and fuel oil-like liquid-fired process heaters have add-on controls for hazardous air pollutant (HAP) emissions. The Work Group reached consensus on this issue.

- The Subgroup performed a numerical analysis with the data to determine hypothetical, achievable MACT floor emission levels for three HAP categories known to be typically emitted by indirect, gas- and fuel oil-like liquid-fired units: BTX (benzene, toluene, and xylene), formaldehyde, and PAH (polycyclic aromatic hydrocarbons).

- The Subgroup determined that the ranges of data points for each pollutant are due to inherent variability in emissions. To determine numeric limits that all units could hypothetically achieve through the utilization of GCP, the Subgroup determined the emission levels to be three standard deviations above the mean for each pollutant (thus allowing for variability).

    - Mr. Gilmer explained that the analysis was simply an attempt to demonstrate how a numerical analysis might be performed on the available data. It was agreed that there may be several ways to arrive at numerical emission limits with the data that the PHWG has to use.

    - Concern was raised as to how the number three was chosen for the standard deviation analysis and why the emission level was set above the mean as opposed to below.

    - A Work Group member stated that if there are very limited and variable data, then additional testing is needed. Others believe that further testing will not change the variability in data, and since the units do not utilize controls, it will be indeterminable as to why one unit emits more or less HAPs than another.

    - Concern was also raised as to the merits of performing such an analysis at all, when section 112 of the Clean Air Act states that a standard must be based on the best performing 12 percent of sources for which there are data and not a manipulation of the data.

2.3 Numeric Emission Limits Subgroup Status Report

Lee Gilmer and Chuck Feerick presented information used by the Subgroup to consider the infeasibility of numeric emission limits for process heaters (see handout presented as attachment 6).

- The Subgroup's goal was to show that a numeric limit is not feasible, because the application of measurement methodology is not practicable due to economic limitations, as outlined in the handout. An industry representative suggested that GCP should be the basis for the standard, rather than numeric limits, to reflect existing practices.

    - A point was made that because variability cannot be explained, affected facilities will not know how to meet numeric emission limits if they are established. A State representative said that GCP provide guidance to reduce HAP emissions, while a numeric limit does not. There is concern that if a numeric limit is established, the affected sources will not know how to comply.

    - A suggestion was made that if there are no add-on controls, then there may be no need for a floor to be established at all. An EPA representative said that delisting of this source is highly unlikely.

- Further concern was raised about setting numeric emission limits and requiring compliance testing, and the impacts that such requirements could have on small businesses. An industry representative suggested that regulatory considerations will have to be taken under SBREFA (Small Business Regulatory Enforcement and Fairness Act) if numerical limits are pursued.

2.4 Direct-Fired Process Heater Discussion

- The PHWG reached consensus on the final draft of the Direct-Fired Process Heater memo (included as attachment 7) and agreed to present it to the CC at the February meeting. ERG will post the memo to the TTN (technology transfer network).

- Concern was raised as to who will evaluate which direct-fired units do not fall under other source specific MACT standards and who will determine how they should be addressed. It is believed by several individuals that an attempt to identify such units is beyond the scope of the Work Group and that EPA should consider how such units be handled.

2.5 Upcoming Presentation to the Coordinating Committee

- An EPA representative explained that the CC would like to become engaged in discussions of important issues while they are being worked through by the source work groups, rather than simply receiving the final decisions in the end. The entire process might be better served if issues are discussed with the CC throughout their development.

- The Work Group decided that some issues would be presented in an informational forum, to show the other work groups and the CC what topics are under discussion and to receive some feedback. Other issues will be presented as closure.

    - The Work Group decided not to include a discussion of GCP in their presentations to the CC.

    - Bruno Ferraro will present the Direct-Fired Process Heater Position Memo and Lee Gilmer will present the analysis showing that MACT floor for indirect, gas- and fuel oil-like liquid-fired units is not add-on control.

    - All materials to be presented at the February 24 and 25 CC meeting must be forwarded to EPA by Friday, February 13.

2.6 Additional Information Presented to the Work Group

- ERG provided the Work Group with a list of process heaters in the ICCR survey database that are firing fuels other than gas and fuel oil-like liquids (as requested by the Work Group at the last meeting) (see handouts presented as attachment 8). The same information will be extracted from the inventory database when version 3 is released.

3.0 UPCOMING MEETINGS

- A meeting is scheduled for February 26 in Winston-Salem, NC.

- A meeting is tentatively scheduled for April 30 in Fort Collins, CO following the CC meeting.

These minutes represent an accurate description of matters discussed and conclusions reached and include a copy of all reports received, issued, or approved at the February 10, 1998 meeting of the Process Heater Work Group. Bill Maxwell, EPA Co-Chair.

Attachment 1

Flash Minutes From The February 10 And 11, 1998 Meeting Of
The ICCR Process Heater Work Group

ICCR Process Heater Work Group Meeting
February 10 and 11, 1998
Los Angeles, California

DECISIONS

The Work Group reached consensus on the Direct-Fired Process Heater Position memo.

The Work Group agreed that the Good Combustion Practices Subgroup will investigate how to address periods of on-line maintenance and other outstanding issues related to good combustion practices.

The Work Group reached consensus that available data show that less than 1% of indirect, gas- and fuel oil like liquid-fired process heaters have add-on controls for HAP emissions.

The Work Group decided not to include a discussion of good combustion practices in their presentations to the Coordinating Committee in February.

ACTION ITEMS

Bruno Ferraro will present the Work Group's Direct-Fired Process Heater Position memo at the February 25 Coordinating Committee meeting.

Lee Gilmer will present the Work Group's analysis showing that the MACT floor for indirect, gas- and fuel oil like liquid-fired process heaters is not add-on control at the upcoming Coordinating Committee meeting.

Janet Peargin will contact Bruno Ferraro to discuss the Direct-Fired Process Heater Position presentation. Bruno will contact Lawrence Otwell, Oliver Stanley, and Dave Smith concerning the presentation as well.

Janet Peargin will forward information on pollution prevention, waste minimization, and good operating procedures to Fred Porter, John Ogle, and Bob Morris.

ERG will post Bruno Ferraro's Direct-Fired Process Heater Position memo to the TTN.

All materials to be presented at the upcoming Coordinating Committee meeting must be forwarded to EPA by Friday, February 13.

UPCOMING MEETINGS

A meeting is scheduled for February 26 (8:00A - 3:00P) in Winston-Salem, NC.
A meeting is tentatively scheduled for April 30 in Fort Collins, CO.

Attachment 2

Meeting Participants

MEETING PARTICIPANTS

Glenn Acosta, Los Angeles County Sanitation District
Roy Carwile, Aluminum Company of America
Norbert Dee, National Petroleum Refiners Association
Chuck Ferrick, Exxon Company, USA
Lee Gilmer, Texaco, Inc.
Jason Huckaby, Eastern Research Group, Inc.
Mary Lalley, Eastern Research Group, Inc.
Diane McConkey, U.S. Environmental Protection Agency, Office of General Counsel
Bob Morris, The Coastal Corporation
John Ogle, Consultant, Dow Chemical Company
Janet Peargin, Chevron Corporation
Fred Porter, U.S.Environmental Protection Agency, Office of Air Quality Planning and Standards
David Schanbacher, Texas Natural Resource Conservation Commission, Office of Air Quality
Jim Seebold, Chevron Research & Technology Company
Jane Williams, California Communities Against Toxics
Heather Wright, Eastern Research Group, Inc.

Attachment 3

Good Combustion Practices For HAP Emissions Control From Process Heaters

Attachment 4

Pollution Prevention Subgroup Draft Guidance On Good Combustion Techniques

Attachment 5

Hypothetical MACT Floor Numerical Analysis

Attachment 6

Numerical Emission Limit For Process Heaters

Attachment 7

Direct-Fired Process Heater Memo - Final Draft

CLOSURE ON DIRECT-FIRED PROCESS HEATERS IN THE ICCR

DECISIONS BY PROCESS HEATERS WORKGROUP ON DIRECT-FIRED PROCESS HEATERS

The focus of the Process Heater Workgroup (PHWG) is on indirect-fired process heaters.

The Process Heaters Workgroup recommends that direct-fired process heaters be addressed through the various source specific MACT rulemaking proceedings that the Agency is undertaking, and that the Agency do so in a timely manner.

If in the course of review and deliberations by the PHWG, a category of direct-fired process heaters that would not otherwise be addressed by the Agency is identified that appears to be an appropriate candidate for MACT standards then this category could be considered for inclusion in the ICCR.

BACKGROUND

Definition

Direct-fired process heaters are devices where the products of combustion mix with process materials and the combined emissions exit the same stack.

Statement of Issue

The ICCR Process Heater Source Workgroup has been discussing indirect versus direct-fired process heaters since the first meeting. Indirect-fired process heaters are the accepted focus of the ICCR Process Heater Workgroup.

At the November 20, 1997 PHWG meeting, EPA stated that their focus will be on indirect-fired process heaters at this time. The issue was discussed by the PHWG members and a subgroup was formed to present a position for the workgroup to consider.

The subgroup included:
Bruno Ferraro
Jane Williams
Lawrence Otwell
Oliver Stanley
David Smith

Considerations

Indirect-fired process heaters burn a fuel (gas, liquid or solid) or combination of fuel and waste (as defined by the solid waste subgroup) to produce heat or energy for a process. The products of combustion do not mix with the process. The emissions result only from the combustion of this fuel or waste. Indirect-fired process heaters should be addressed in their own category.

Direct-fired process heaters are much different. The products of combustion (from gas, liquid or solid fuels and/or waste) mix with the process emissions and exit from the same stack. Here are some facts that affect direct-fired process heater emissions:

1. There are a wide variety of processes that are included. These include lithographic ovens, paint drying ovens, asphalt batch plants, limestone driers, metal coil drying ovens, plastics manufacturing processes, chemical manufacturing process, polyester resin plants, reinforced fiberglass part curing ovens, farm and commercial grain and feed dryers, food related process dryers and ovens, secondary aluminum smelting furnaces and hundreds more.

Many of these direct-fired sources have their own industry specific MACT requirements due by November 15, 2000. Emissions from these direct-fired process heaters will be covered under these MACTs.

2. The emissions from all of these hundreds of processes vary with the type of process materials used, the type of fuels burned, and the type of control equipment applied to the source.

3. The emissions from direct-fired process heaters are source and industry specific. The only way to properly identify air pollutants that may be emitted from these source specific direct-fired process heaters is to have specific knowledge of the process and the raw materials used in that process.

4. The ICCR process heater workgroup is technically prepared to address the emissions from the combustion of fuels and wastes, but does not have enough information to address air pollutants that may be emitted from the wide variety of direct-fired process heaters. The technical representation from the hundreds of industries using direct-fired process heaters in the ICCR process heater workgroup is limited and not sufficient to address emissions from these direct-fired sources.

Attachment 8

Process Heaters in ICCR Survey Database Firing Fuels Other Than Gas and Fuel Oil-Like Liquids